

Application Serial No.: 10/796,961
Reply to Office Action dated January 17, 2007

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-15 are presently active in this case, Claims 1, 5, 8, 11, 14, and 15 having been amended by way of the present Amendment. Care has been taken such that no new matter has been entered. (See, e.g. the figures.) The Applicants respectfully request entry of the amendments set forth herein as they are believed to place the application into condition for allowance.

At the outset, the Applicants again request clarification on the record regarding whether the copies of the foreign priority documents have been received by the Patent Office. The Applicants respectfully request the clarification of this issue in a subsequent Official Action.

In the outstanding Official Action, Claims 5, 6, 11, 12, and 15 were rejected under 35 U.S.C. 102(b) as being anticipated by Hirotsu et al. (U.S. Patent No. 5,071,461). Claims 1, 3, 8, 10, and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ando (JP 2000-211630) in view of Kato et al. (JP 2000-211630). Claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over Ando in view of Kato et al. and further in view of Stroud (U.S. Patent No. 2,049,528). Claims 2 and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. in view of Cypher et al. (U.S. Patent No. 3,223,504). Claims 7 and 13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Hirotsu et al. in view of Cathers (U.S. Patent No. 4,228,993) in view of Andrewlavage, Jr. (U.S. Patent

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No. 6,616,025). For the reasons discussed below, the Applicants request the withdrawal of the above art rejections.

Regarding the anticipation rejection of independent Claims 5, 11, and 15, the Applicants note that a claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference. As will be demonstrated below, the Hirotsu et al. reference clearly do not meet each and every limitation recited in amended independent Claims 5, 11, and 15.

Claims 5, 11, and 15 each advantageously recite an apparatus comprising, among other features, a glass sheet holding portion which holds a plurality of belt-shaped glass sheets so that only end portions thereof overlap each other, a heating mechanism, and a clamping mechanism configured to press lap portions of thermally softened end portions from both sides in a thickness direction of the belt-shaped glass sheets, thereby joining the lap portions together and forming the lap portions to the thickness of one belt-shaped glass sheet. The Hirotsu et al. reference fails to disclose all of the above limitations.

The Hirotsu et al. reference describes a method and an apparatus for bending two overlapping glass plates simultaneously to form a laminated glass. The method and apparatus allows for the deep-bending of a side portion of the overlapping glass plates. The Hirotsu et al. reference describes an apparatus that forms laminated glass plates in which glass sheets are completely overlapped with one another. The Hirotsu et al. reference does not disclose an apparatus comprising a glass sheet holding portion which holds a plurality of belt-shaped glass sheets so that *only end portions thereof overlap each other* for joining end portion of sheets, as in Claims 5, 11, and 15. No such disclosure is present in the Hirotsu et al.

reference.

Furthermore, as the Hirotsu et al. reference deals with a laminated glass, which has twice the thickness of each of the individual glass plates, the Hirotsu et al. reference clearly does not disclose a clamping mechanism which presses or is configured to press lap portions of the thermally softened end portions from both sides in the thickness direction of the belt-shaped glass sheets, thereby joining the lap portions together and forming the lap portions to *the thickness of one belt-shaped glass sheet*, as recited in independent Claims 5, 11, and 15.

Accordingly, the Hirotsu et al. reference clearly does not disclose all of the limitations recited in independent Claims 5, 11, and 15. Therefore, the Applicants respectfully request the withdrawal of the anticipation rejection of Claims 5, 11, and 15 based on the Hirotsu et al. reference.

Furthermore, regarding the obviousness rejection of independent Claims 1, 8, and 14 based on the Ando reference in view of the Kato et al. reference, the Applicants note that the basic requirements for establishing a *prima facie* case of obviousness as set forth in MPEP 2143 include (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the reference (or references when combined) must teach or suggest all of the claim limitations. The Applicants submit that a *prima facie* case of obviousness cannot be established in the present case because the cited obviousness references, either when taken singularly or in combination, do not teach or suggest all of the limitations recited in amended independent Claims 1, 8, and 14.

Independent Claim 1 recites a method for joining end portions of belt-shaped glass sheets, the end portions each having longitudinal side surfaces and a terminal end surface, the method comprising, among other features, locating the end portions so that the end portions overlap each other with longitudinal side surfaces of the end portions abutting one another, and pressing lap portions of thermally softened end portions at least once from both sides towards the abutting longitudinal side surfaces, thereby joining the lap portions together and forming the lap portions to a thickness of one belt-shaped glass sheet. Independent Claims 8 and 14 each recite a method comprising, among other features, holding a plurality of belt-shaped glass sheets substantially flush with one another in the form of a frame and locating end portions, which each have longitudinal side surfaces and a terminal end surface, of each two adjacent belt-shaped glass sheets so that the end portions overlap each other with longitudinal side surfaces of the end portions abutting one another, and pressing lap portions of thermally softened end portions at least once from both sides towards the abutting longitudinal side surfaces, thereby joining the lap portions together and forming the lap portions to a thickness of one belt-shaped glass sheet. The Applicants submit that the Ando reference and the Kato et al. reference fail to render the above limitations obvious.

The Ando reference describes a flat image display device formed of a back surface substrate (202), a front surface substrate (201), and an outer frame arranged between the front surface substrate (201) and the back surface substrate (202). One embodiment of the outer frame includes a first outer frame (210) and a second outer frame (211). The Ando reference depicts several methods of forming the outer frames, such as the methods depicted in Drawings 6 and 7.

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The method in Drawing 6 appears to be a method similar to that described in the Kato et al. reference, as will be discussed below. The presently claimed invention is distinguishable therefrom, since the method in Drawing 6 does not disclose or suggest joining end portions of belt-shaped glass sheets, where the end portions each have longitudinal side surfaces and a terminal end surface, including locating the end portions so that *the end portions overlap each other with longitudinal side surfaces of the end portions abutting one another*, and pressing lap portions of thermally softened end portions at least once from both sides towards the abutting longitudinal side surfaces, as recited in Claim 1, or locating end portions, which each have longitudinal side surfaces and a terminal end surface, of each two adjacent belt-shaped glass sheets so that *the end portions overlap each other with longitudinal side surfaces of the end portions abutting one another*, and pressing lap portions of thermally softened end portions at least once from both sides towards the abutting longitudinal side surfaces, as recited in Claims 8 and 14. Drawing 6C clearly depicts abutting a *terminal end surface* of a frame member to a side surface thereof, and Drawing 6D depicts joining them in that orientation. The side surfaces are not abutting one another. Thus, Drawing 6 does not disclose or suggest locating end portions so that the end portions overlap each other with longitudinal side surfaces of the end portions abutting one another, and pressing lap portions of thermally softened end portions at least once from both sides towards the abutting longitudinal side surfaces, as claimed.

The method depicted in Drawing 7 does not bend the first three corners, but rather joins all four corners in the same manner as the last corner in Drawing 6 where a terminal end surface is abutted to a side surface. Thus, Drawing 7 also does not disclose or suggest

locating end portions so that the end portions overlap each other with longitudinal side surfaces of the end portions abutting one another, and pressing lap portions of thermally softened end portions at least once from both sides towards the abutting longitudinal side surfaces, as claimed.

The Ando reference does not disclose overlapping and joining end portions in the manner recited in Claims 1, 8, and 14 of the present application. The side surfaces of the ends of the bent bar (216) in Drawing 6 and the side surfaces of the ends of the members (219) in Drawing 7 do not abut and overlap as recited in the claims (see, e.g., Figure 2 of the present application), but rather a terminal end surface of one end is adjacent to a side surface of the other end. Furthermore, the Ando reference does not disclose pressing lap portions of the thermally softened end portions at least once from both sides towards the abutting side surfaces, thereby joining the lap portions together and forming the lap portions to a thickness of one belt-shaped glass sheet.

The Applicants submit that the Kato et al. reference does not supplement the deficiencies in the teachings of the Ando reference discussed above.

The Kato et al. reference depicts a structure for bending a strip of glass (20) in three corners, such that the glass has a configuration as depicted in Drawing 3(B) of the Kato et al. reference. In the remaining corner, one terminal end surface of the strip of glass is positioned adjacent to a side surface of the other end of the strip of glass. Then, the ends of the strip of glass are locally heated to be melt-bonded together and molded by the use of a forming die (50). Such a method is equivalent to a method described in the Description of the Related Art section of the present application and similar to the method depicted in Drawing 6 in the

Ando reference described above.

The Kato et al. reference does not disclose or suggest locating end portions so that the end portions overlap each other with longitudinal side surfaces of the end portions abutting one another, and pressing lap portions of thermally softened end portions at least once from both sides towards the abutting longitudinal side surfaces, as claimed. The side surfaces of the ends of the glass strip in the Kato et al. reference do not abut or overlap as claimed, but rather a terminal end surface of one end is adjacent to a side surface of the other end. Furthermore, the Kato et al. reference does not disclose pressing lap portions of the thermally softened end portions at least once from both sides towards the abutting side surfaces, thereby joining the lap portions together and forming the lap portions to a thickness of one belt-shaped glass sheet.

Accordingly, the Ando reference and the Kato et al. reference fail to disclose or suggest, either when taken singularly or in combination, all of the limitations recited in independent Claims 1, 8, and 14. Therefore, the Applicants respectfully request the withdrawal of the obviousness rejection of independent Claims 1, 8, and 14 based on the combination of the Ando reference and the Kato et al. reference.

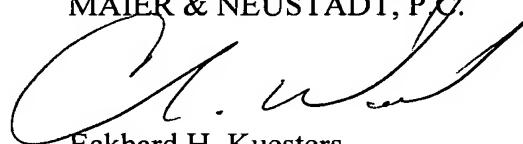
The dependent claims are considered allowable for the reasons advanced for the independent claim from which they depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed nor suggested by the applied references when those features are considered within the context of their respective independent claim.

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Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

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